

# Educational Evaluation and Intuition

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## INTRODUCTION

ONE of my students in a course on educational psychology came to my office with a problem. She said, "You have divided our class into small groups, and each student in each group is required to give a research report to his group. After the report has been given, the other students in the group are supposed to decide what grade the report will get. But I am doing research on a complicated topic, and the other students in my group will not have done any research on this topic. Therefore I don't think that they will have any reasonable basis for grading me, since I know much more than they know about this topic. Won't you please grade my project, Dr. Conklin, so it will get the grade it really deserves?"

I resisted the temptation to discuss the question whether there is a grade which something really deserves (al-

though this question is a most interesting one). Instead, I tried to show my student that when she becomes a teacher she will sometimes give grades to students who have done research on topics which she is not herself well acquainted with. I mentioned several closely related problems of evaluation, including the question as to how the typical citizen in a democracy can reasonably be expected to exercise intelligent control over the formation of policy by the experts.

Since the time of this discussion I have given prolonged consideration to a group of questions similar to the one raised by my student. The present paper is an attempt to describe these questions and their interrelationships. All such questions are particular versions of an ancient and fundamental philosophical question about our knowledge of other people's knowledge. After the questions have been described, we shall explore the major answers which can be (and have been) given. Finally, we shall see that one cannot be satisfied with certain methods of educational evaluation unless one presupposes the truth of certain philosophical doctrines about the nature of knowing.

## THE QUESTIONS AND THEIR INTERRELATIONSHIPS

How can someone know that someone else knows something, without actually

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*If there is one dogma above all others that influences educational theory and research in this country, it is that all educational concepts and discourse be explicit and refer unambiguously to empirically identifiable entities. In this article, KENNETH CONKLIN examines this dogma as it manifests itself in the problem of evaluating what one does not himself know. The author is Assistant Professor of Philosophy of Education at Oakland University in Rochester, Michigan. He did his work for the Ph.D. at the University of Illinois and is a member of Kappa Delta Pi. Although a relative newcomer to the field, he has already published a number of thoughtful articles in the philosophy of education.*

knowing that thing himself? This is the general question which is raised by such other questions as: How can a teacher grade a student on some topic when the student's knowledge on that topic goes beyond the teacher's knowledge on that topic? How can a normal teacher evaluate a gifted child? How can the ordinary citizen evaluate the expert's judgment on issues requiring expertise?

As a matter of fact, teachers do give grades to students who have done research into topics which the teacher is not himself well acquainted with. This may happen if a teacher deliberately assigns such topics, if a student is allowed to choose his own topic, or if a student probes an assigned topic to a depth which exceeds the teacher's knowledge. Perhaps the very best assignments are the ones that turn out this way.

In any case of this type we may ask the following questions: Can the teacher know whether the student has a particular piece of knowledge? Can the teacher know whether the student has a general knowledge of the topic? Can the teacher judge the quality of the student's particular or general knowledge? Perhaps a general knowledge of a topic can be equated with having a sufficient number of particular pieces of knowledge. However, it seems that knowledge of a topic includes ability to coordinate and synthesize separate pieces of knowledge so that intellectual navigation is possible. It may well be that a gifted child is superior to his teacher in coordinating and synthesizing particular pieces of knowledge which both student and teacher have.

For the sake of simplicity, we shall analyze just one question among those raised so far: Can a teacher know that a student knows something (i.e., something definite)? The analysis of this question should be taken as a paradigm which could easily be applied to all the other questions (e.g., Can the citizen know that an expert knows something and is truly worthy of being called an expert?). If the reader finds the next few paragraphs boring or tedious, he may skip to the end of this section where the results will be summarized.

*Can a teacher know that student knows something (definite)?* This question is perfectly general, in the sense that we may ask it every time a student might know something, whether or not the student's knowledge goes beyond the teacher's. If the student's knowledge in fact does not exceed the teacher's, we will probably be willing to answer the question "yes" without much hesitation—the teacher who knows X will recognize as correct the student's assertion of X. (We shall not here explore the problem of how to elicit the student's assertion of X without teaching him X in the process).

If the student's knowledge does go beyond his teacher's, we are not so sure about answering the question "yes." Will the teacher recognize as correct the student's assertion of X, when the teacher does not already know X beforehand? Evidently one way of answering "yes" here is for the student to teach the teacher! The student's assertion of X, or perhaps the student's *way* of asserting X, may teach the teacher that X is true.

Then the teacher will be able to recognize as (having been) correct the student's assertion of X.

We have now answered "yes" to the question: *Can a teacher know that a student knows something which the teacher did not know beforehand (but now knows thanks to the student's teaching)?* The important question, however, is: *Can a teacher know that a student knows something even though the teacher does not (and maybe never will) know that thing?* Both questions must be answered "yes," if there is to be any reasonable basis for giving credits and grades for a student's knowledge which exceeds his teacher's knowledge. The latter question is not reducible to the former one, simply because teachers are not always able to learn the material covered by their students (whether this is due to lack of intelligence or lack of time is not important here). Perhaps the most extreme case of this is the doctoral student whose original research must be evaluated by professors who have not themselves done the research. Perhaps the most politically significant case of this occurs when the ordinary citizen must evaluate the work and the pronouncements of experts.

We discovered that a student's way of asserting X may teach the teacher that X is true, thereby enabling a teacher who formerly did not know X to recognize as correct the student's assertion of X. A description of the student's way of asserting X would provide a method or rule in answer to the question: *How can a teacher know that a student knows something which the teacher did not*

*know beforehand?* Any satisfactory answer to this "How can . . ." question thereby automatically provides a "yes" answer to the "Can . . ." question: Can a teacher know that a student knows something which the teacher did not know beforehand?

In the same way, we might attempt to provide a "yes" answer to the important question: Can a teacher know that a student knows something even though the teacher does not (and maybe never will) know that thing? A "yes" answer would be automatic if we could provide a good answer to the question: *How can a teacher know that a student knows something which the teacher does not (and maybe never will) know?*

Typically, this last question is answered by providing a list of criteria for grading a student's written or oral discourse. Presumably, if a student's argument is reasonable and logically consistent, then it seems the student must have knowledge of the topic which he is writing or speaking about. However, we shall see that the evaluation of a student's oral or written discourse on X does not provide any real basis at all for deciding whether the student knows X or how well he knows it.

We have asked, "Can a teacher know that a student knows . . . ?" and also, "How can a teacher know that a student knows . . . ?" There is another kind of question, which is philosophically much deeper than anything mentioned so far: *Why can a teacher know that a student knows . . . ?* The type of explanation demanded by the "why" question here is epistemological: we must tell what it is



about the act of knowing which makes it possible for a teacher to know that his student knows something which the teacher does not (and maybe never will) know.

It is important to observe that this epistemological "why can" question requires an answer which is independent of the answers to the previous "can" and "how can" questions. Any "yes" answers to "can" and any rules or criteria in answer to "how can" presuppose that there is a satisfactory epistemological answer to "why can." If something is so, then there must be some reason in the nature of things which explains why it is so.

In summary: We asked whether a teacher can know that a student knows something. There seems to be no problem provided that the teacher already knows the same thing. It also seems possible that a student can teach his teacher something which the teacher did not know before, thereby enabling the teacher to know in retrospect that the student knew that thing. However, there is no immediate answer when we ask whether a teacher can know that a student knows something even though the teacher does not (and maybe never will) know that thing. This question is important because a teacher sometimes must give grades and credits under conditions where he lacks the time or the intelligence to learn the material, the knowledge of which the student is being graded on. If, as we hope, a teacher can know that a student knows something even though the teacher does not (and maybe never will) know that thing, then we would like to find out *how* the

teacher can know that the student knows. Certainly if there is a rule or criterion whereby the teacher can know that the student knows, then we are assured that the teacher can in fact know that the student knows. Finally, we wish to inquire *why* a teacher can know that a student knows. We wish to find out what it is about the act of knowing which makes it possible for a teacher to know that his student knows something (even if the teacher does not and maybe never will know that thing).

#### SOME ANSWERS AND SOME DIFFICULTIES

When giving credits and grades, the usual practice is to receive from a student some piece of physical evidence which is thought to demonstrate the existence and quality of his knowledge. The student may speak (vibrations of air are physical things), he may write (marks on paper), or he may produce a piece of apparatus. In any event, the teacher uses his physical senses to detect the evidence produced by the student.

A leap of faith may then be made. The teacher interprets what he thinks is the meaning of the evidence, and the teacher infers that the student must have intended that meaning in order to be able to produce the evidence. But both the interpretation of the meaning and the inference that the student intended that meaning are subject to dispute and are in some sense private affairs forever closed to public scrutiny.

Some philosophers (empiricists) might argue that every occasion of grade-giving requires physical evidence

to be reasonable, and that the physical evidence alone is a sufficient basis for giving grades. Philosophers who hold the opposite position (idealists) would say that every occasion of grade-giving requires correct interpretation and evaluation of the student's intended meaning in order to be reasonable; and such philosophers might go still further by suggesting that correct interpretation and evaluation of a student's intended meaning must ultimately be made independently of all physical evidence and might reasonably be made without any such evidence at all.

Certainly it is clear that teachers do in fact almost always require students to produce some kind of physical evidence. It has even become fashionable to *define* "I.Q.," "passing grade," and other such entities in terms of the score a student achieves on a test. The empiricist would say that the concept "passing grade" can have no meaning beyond the fact that a student must have achieved a certain score on a certain test.

According to the empiricist, the student's assertion of X is taken as proof that the student knows X. The student's way of asserting X may teach the teacher X in case the teacher did not formerly know X, thereby enabling the teacher to know that the student knew X. The student's assertion of X, and his way of asserting X, are physical evidences which comprise the necessary and sufficient criteria for evaluating whether and how well the student knows X (according to the empiricist).

There are a number of difficulties with the empiricist interpretation which

make it unacceptable. Imagine the following three situations:

- (1) An animal or a human sits at a typewriter and hits the keys at random, accidentally typing:  $E = mc^2$
- (2) An animal or a human has been trained by means of Skinnerian behavior-shaping to sit at a typewriter and type:  $E = mc^2$
- (3) Albert Einstein sits at a typewriter and types:  $E = mc^2$

Although these three situations are obviously different, the physical evidence is always the same. The product produced by the typists is certainly the same:  $E = mc^2$ . Even the mannerisms and superfluous gestures of the typists may be identical. The empiricist might successfully distinguish between cases (1) and (2) by demanding that the typist "do it again." Thus, knowing X would be defined as both being able to assert X and also being able to assert X upon demand. However, the empiricist can never distinguish between cases (2) and (3). Indeed, empiricists who really take their position seriously (e.g., Skinner) would say that there is no difference between cases (2) and (3), except that case (3) was an outcome of stimulus-response behavior-shaping over a longer training period where most of the training was inefficient or superfluous in producing this particular behavior.

Common sense tells us that the idealist must be right. A student may guess correctly on a test without really knowing the answer. Students commonly

complain that the test did not really measure how much they got out of the course, and they mean more by saying this than simply that the test did not cover all the particular pieces of knowledge they had. We do in fact use one test rather than others precisely because the one we use seems to discriminate better between students whom we acknowledge to be knowers and students whom we consider ignorant. Thus, we do commonly make a distinction between the possession of knowledge and the physical evidence which the alleged knower produces. There is a sense in which the physical evidence is totally irrelevant to the question whether the student has knowledge—students may know without producing evidence, and students may produce evidence without knowing.

The empiricist has a most effective rebuttal to all of this. He may say that it does not matter whether there is such a thing as knowledge apart from evidence. Anything which a student gets out of a course beyond the evidence he can produce is his own private affair, which cannot affect other people or be noticed by them. Whenever anyone interacts with his environment or with other people, the interaction is precisely the production of physical evidence. The purpose of education is to teach students how to interact with the environment and with other people. Therefore, grades can and should be based entirely upon the evidence produced by students. Learning is defined as change of behavior, so grades should be determined by behavioral evidence.

The empiricist's argument can be divided into two parts. First, he claims that interaction with the environment or other people is entirely a matter of physical behavior; second, he claims that education should be or is by definition entirely concerned with such interaction. Both parts of the empiricist's argument can be challenged. First, we note the ancient philosophical dispute concerning the nature of reality: Is reality entirely physical, or are there non-physical aspects of reality such as ideas and values? Some philosophers would claim that reality is primarily non-physical, and that every case of interaction involves a non-empirical transmission of non-empirical entities. Second, we note the traditional claim that education should be concerned not only with interaction, but with maximum actualization of potentialities, or self-realization. Indeed, several highly regarded philosophers and educators of the past (Plato, Augustine, Fichte, Froebel), have claimed that the most important function of education is to assist the student in developing his private capacities and intuitions.

The purpose of this article is not to settle these profound philosophical debates, but to point out how these debates are intimately relevant to the problems of educational evaluation. To whatever extent we claim that grades can and should be determined by the physical evidence a student produces, to that extent we must accept the empiricist's arguments about the nature of interaction and learning and the purpose of education. To whatever extent we claim that



grades cannot or should not be determined by the physical evidence a student produces, to that extent we must accept the idealist's arguments that knowledge is distinguishable from evidence, human interaction with people or environment involves essential non-physical entities, and education should be concerned with private self-actualization.

The dispute between the empiricist and the idealist may be viewed as a dispute concerning the correctness of paragraphs one and two in the present section. If the idealist makes use of physical evidence, he does so only in order to get hints at the student's intended meaning. Whether the evidence is valid or not (whether it expresses what it is intended to express) becomes a separate problem. Any evaluation of a student's knowledge made with the help of evidence must include the assumption that the evidence accurately expressed the student's intended meaning, and such an assumption can be justified only by faith in the teacher's empathic or intuitive appreciation of the student's intended meaning. This power of empathy or intuition must function whenever evaluation is done responsibly. The power of empathy or intuition is always required to certify the validity of any evidence. In addition, the power of empathy or intuition might function alone, without any physical evidence at all, to determine a student's intended meaning.

All of the answers given so far in this section assume either that the teacher already knows whatever it is which the students knows, or else the student

teaches the teacher by his way of asserting what he knows. We have not yet discussed whether, how, and why the teacher can know that a student knows something even though the teacher does not (and maybe never will) know that thing. The answers to these questions are fairly obvious extensions of the answers to the earlier questions. However, the empiricist answers will be seen as inadequate for doing the practical work of educational evaluation, and this inadequacy will lend support to the idealist view.

The empiricist says that because physical evidence is all there is, the necessary and sufficient basis for giving credits and grades is the physical evidence produced by the student. Learning is a change in behavior, all knowledge is learned, and it makes sense to say that someone knows something only if he is able to use his senses to "see" and to "say" what it is that he knows. But if the empiricist is correct, then it must be impossible for a teacher to know that a student knows something when the teacher himself does not (and maybe never will) know that thing. For if a teacher does not know something, he will then not be able to "see" or to "say" that thing; hence, he will not be able to recognize it as correct when the student "says" it. The only way out of this difficulty is for the student to teach it to the teacher, but this case has been handled previously and is contrary to our present assumption that the teacher does not know X at the time when the teacher knows that the student knows X.

Since a teacher may lack either the

time or the intelligence to learn everything which all his students know and are to be graded on, the teacher will then have no reasonable way (according to the empiricist) to give grades and credits to students for work which goes beyond the teacher's knowledge. Original research could not be evaluated (e.g., doctoral theses), teachers would be obliged to confine the activities of their students to topics on which the teachers are experts, gifted children could not be evaluated, and democracy would be impossible because the ordinary citizen would be unable to evaluate the pronouncements and labors of the experts.

The empiricist may defend his position by saying that these consequences of his position are not bad but contain some open or concealed blessings. Or the empiricist may say that although the consequences of his position are undesirable, there are many facts which are undesirable. We must accept reality and do our best to live with it, rather than wishing away what we dislike. The author of this paper, however, would suggest that the consequences of the empiricist position are bad and need not be tolerated for the simple reason that the empiricist position is mistaken.

The idealist view is correct, and has no difficulty showing how, why, and that a teacher can know that his student knows something even though the teacher does not (and maybe never will) know that thing. According to the idealist, the teacher must always rely upon the power of his empathy or intuition to certify the validity of any evi-

dence produced by a student. In addition, the power of empathy or intuition might function alone, without any evidence at all, to determine a student's intended meaning. A teacher might in this way know the state of a student's mind. Although the teacher himself does not know X, he might know that the student is being honest, that the student believes what he is saying and is certain about it, and that the student would be prepared to defend his belief with good evidence. Even if the student never said anything and the teacher was so ignorant of X as to be unable to call it X, the teacher might still know that the student's frame of mind is that of a knower.

I have claimed that intuition is necessary to certify that the evidence produced by a student accurately represents his intended meaning, and I have claimed that intuition can be sufficient to determine a student's intended meaning even in the absence of any evidence. Stated more generally, then, intuition is a way of knowing which transcends all physical media and allows us to know something directly (immediately). Intuition does not ordinarily function well in helping us know scientific facts about the physical world. But intuition is absolutely essential for knowing moral truths, for knowing the intended meaning of someone's physical products, and for knowing someone's general personality or particular state of mind. The word "empathy" ordinarily means "putting yourself in the other fellow's shoes" or "taking on the feelings of the other guy." Thus, empathy is the power



of intuition when applied to give knowledge of someone's state of mind.

An empiricist would claim that there is no such thing as intuition. Any careful, scholarly reader of this article would certainly be entitled to ask how intuition works, whether there are variations in the reliabilities of intuitions, and how to tell good intuitions from bad ones. These questions deserve to be answered and have been answered by many writers, but the answers are far too long and complex to be considered here. The interested reader may recall the following: Plato's theory of knowing (especially in *Meno*, *Phaedrus*, and the sun, line, and cave allegories in the *Republic*), the idealist tradition in German philosophy, the doctrine of divine illumination in St. Augustine (see especially *De Magistro*), the doctrine of knowledge by connaturality in the philosophy of Aristotle, St. Thomas Aquinas, and Jacques Maritain,<sup>1</sup> and the modes of knowing discussed in oriental mystic philosophy (especially Zen).<sup>2</sup>

<sup>1</sup> Aristotle thought that knowledge occurs when the soul con-forms to (takes on the same form as) the formal cause of what is known. This doctrine was interpreted by St. Thomas Aquinas into his doctrine of knowledge by connaturality, and Aquinas' doctrine has been revived in modern times by Jacques Maritain. See the following books by Maritain:

*Approaches to God*. Trans. Peter O'Reilly (New York: Harper and Brothers, 1954).

*The Degrees of Knowledge*. Trans. Bernard Wall (New York: Charles Scribner's Sons, 1938).

*The Range of Reason* (New York: Charles Scribner's Sons, 1952).

*Science and Wisdom*. Trans. Bernard Wall (London: The Centenary Press, 1940).

<sup>2</sup> For example, see Daisetz Teitaro Suzuki, *Studies in Zen* (New York: Philosophical Library, 1955), Chapter 4, "Reason and Intuition in Buddhist Philosophy," pp. 85-128.

Something closely related to intuition is postulated in gestalt psychology and in the discussion by sociologists of "verstehen" as a sociological research technique. The sociologist Sorokin has investigated the extent to which various philosophies and cultures have relied upon intuition, and he has sketched some of the typical answers to the above-mentioned questions concerning the nature and variable reliability of the intuitive process.<sup>3</sup>

#### CONCLUSION

Whether or not a student produces evidence, the teacher must always rely upon his intuitive appreciation of the student's frame of mind or intended meaning. If a student provides evidence of knowing something, the teacher uses his intuitive power to certify that the evidence was not accidental or lucky but really does come from a student who intended to produce what was produced. If a student does not or cannot provide evidence of knowing something, the teacher may still evaluate the student's frame of mind. It is easier for a teacher to know that a student knows something if the teacher already knew that thing or is taught it by the student, but even a teacher who never knows something may know that a student knows it. In any case, the teacher's intuitive evaluation is fundamentally important.

I do not mean to suggest that teachers stop asking students for evidence. In a

<sup>3</sup> Pitirim Sorokin, *Social and Cultural Dynamics* (4 vols.; Chicago: American Book Co., 1937), Vol. IV, Chapter 16, Section 3, pp. 746-764.

vocational training program the purpose of education may well be to enable the student to produce well-controlled physical interactions with the environment, and the grade should be based entirely on the student's visible performance in the production of physical evidence. But to whatever extent a grade is meant to evaluate a student's private understanding or appreciation of something, to that extent the grade must be determined by the teacher's intuitive insight into the student's intended meanings and frame of mind.

The empiricist approach has come to dominate educational evaluation to such an extent that many educators never question its right to dominance. The

"scientific method" has become as dictatorial and oppressive in modern times as church dogma was in the Middle Ages. This paper has attempted to show that a teacher's intuitive evaluation is fundamentally important, both in certifying the validity of empirical evidence and in judging a student's knowledge when such evidence is not or cannot be produced. Teachers should have more faith in their intuitive judgment of students. Teachers should be willing to disagree with test results. Hopefully, a teacher's increased use of intuitive techniques of evaluation would stimulate students to spend less time showing and telling, and more time learning, feeling, understanding, and self-actualizing.